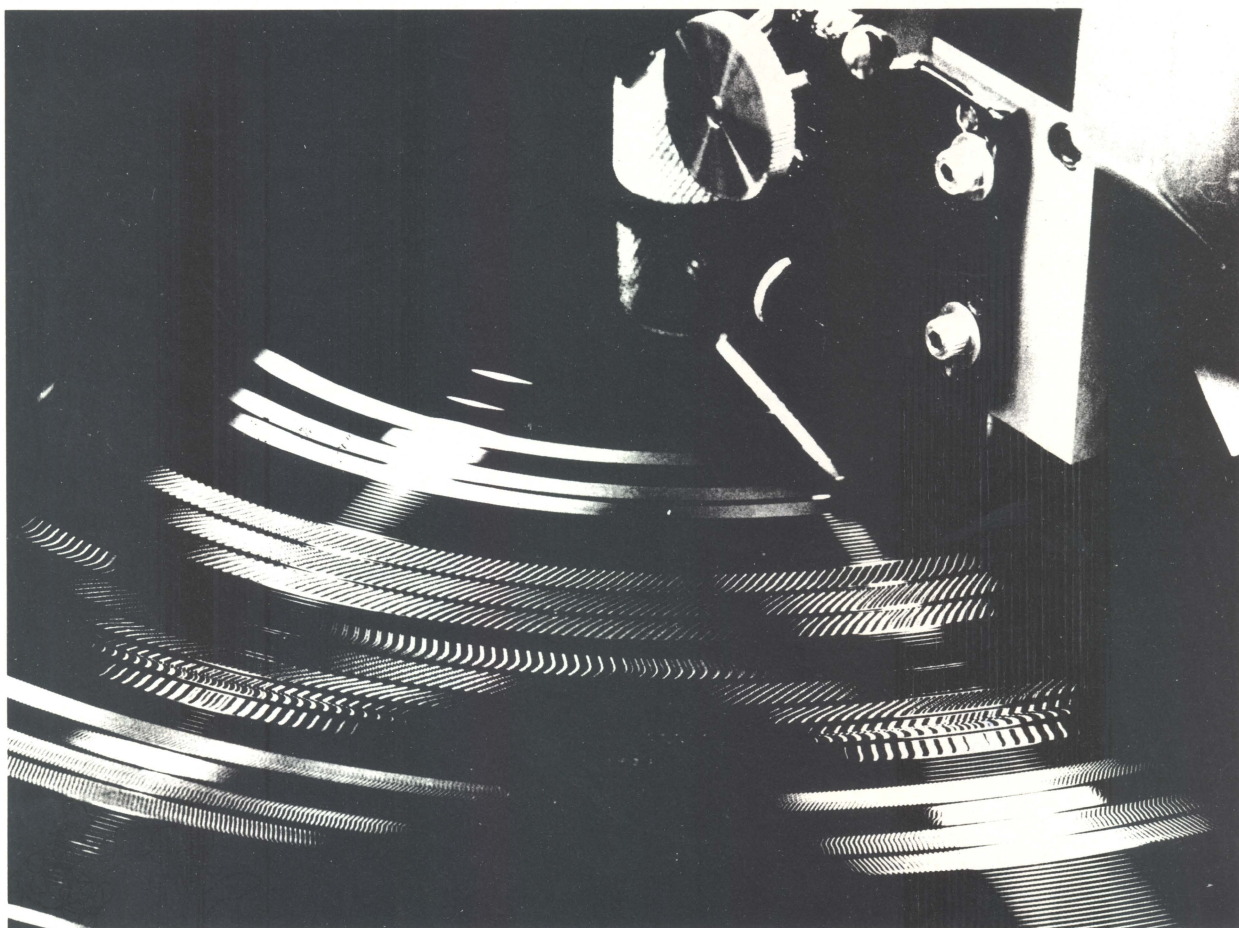


CBS TECHNOLOGY CENTER

CBS Inc.
High Ridge Road
Stamford, Conn. 06905

Technical Series

PROFESSIONAL TEST RECORDS



A PRODUCT OF CBS LABORATORIES, STAMFORD, CONN. AND COLUMBIA RECORDS, NEW YORK, N.Y., DIVISIONS OF CBS INC.
Manufactured and Printed in the United States of America

CBS Laboratories Technical Series Professional Test Records are unique, high-precision tools designed to assist audio and quality control engineers and test and service technicians in the rapid evaluation of audio components, equipment and systems. Each record has a complete series of tests, which eliminates the need for equipment, saves hours of time, and makes it a productive tool in the laboratory, on the production line, and in field testing.

STR 100 Stereophonic Frequency Test Record

The STR 100, designed for the evaluation of pickups and systems, was recorded with a constant amplitude characteristic below 500 Hz and a constant velocity characteristic above 500 Hz. Tests include: Sweep Frequency—with the sweep rate synchronized for use with a graphic level recorder; Spot Frequency—with voice announcements; Channel Separation; Wavelength Loss and Stylus

SIDE A:

- Band 1 Left sweep: 40-500 Hz constant amplitude, 500-20,000 Hz constant velocity; 1,000 Hz 0 dB level
- Band 2 Right sweep: 40-500 Hz constant amplitude, 500-20,000 constant velocity; 1,000 Hz 0 dB level
- Band 3 Left spot frequencies: 20,000-20 Hz; same characteristics and level as Band 1A
- Band 4 Tone arm resonance test: left sweep 200-10 Hz constant amplitude, + 3 dB relative to Band 1A
- Band 5 Tone arm resonance test: right sweep 200-10 Hz constant amplitude, + 3 dB relative to Band 2A
- Band 6 Left 1,000 Hz, 0 dB reference tone: 3.54 cm per second rms 45° velocity
- Band 7 Right 1,000 Hz, 0 dB reference tone: 3.54 cm per second rms, 45° velocity

Wear—to pinpoint oversize or worn-out styli, and excessive pickup tracking force; Compliance; Phasing; Vertical and Lateral Tracking; Tone Arm Resonance—to check system performance at low and subaudible frequencies and thus reveal undamped resonances which may cause equipment overloading.

SIDE B:

- Band 1 Left playback loss test: 20,000-1,000 Hz, constant velocity, -15 dB
- Band 2 Right playback loss test: 20,000-1,000 Hz, constant velocity, -15 dB
- Band 3 Right spot frequencies: 20,000-20 Hz, same characteristics and level as Band 3A
- Group 4 Lateral tracking test: .001, .002, .003, .004, and .005 cm peak amplitude
- Group 5 Vertical tracking test: .001, .002, .003, .004, and .005 cm peak amplitude
- Band 6 Left playback loss test: similar to Band 1B
- Band 7 Right playback loss test: similar to Band 2B

STR 100 Net Each\$10.00

STR 112 Square Wave, Tracking and Intermodulation Test Record

The STR 112 permits detailed study of tracking capabilities of stereophonic phonograph pickups. The square wave modulation allows a rapid appraisal of stylus-tip mass, damping, and tracking. Low frequency compliance and tracking are determined by means of 300-Hz bands of

progressively increasing amplitude. Intermodulation distortion measurements are made possible by graduated 200-Hz and 400-Hz intermodulation test bands. The STR 112 has been cut with vertical angle approximating 15°, which is representative of current recording practice.

SIDE A:

- Group 1 1,000 Hz square wave: lateral 5.0 cm per sec; left 3.54 cm per sec; right 3.54 cm per sec; vertical 5.0 cm per sec
- Group 2 300 Hz lateral tracking test: dB re 11.2 μ m peak amplitude; + 6, + 9, + 12, + 15, + 18 dB
- Group 3 300 Hz vertical tracking test: dB re 11.2 μ m peak amplitude; + 6, + 9, + 12 dB
- Group 4 1,000 Hz square wave: identical to Group 1A

SIDE B:

- Band 1 4,000 Hz reference tone: -18 dB re 11.2 μ m peak amplitude; constant level for all intermodulation test bands
- Group 1 Lateral intermodulation test: 400 Hz; +6, +9, +12 +15, +18 dB
- Group 2 Vertical intermodulation test: 400 Hz; +6, +9, +12 dB
- Group 3 Lateral intermodulation test: 200 Hz; +6, +9, +12, +15, +18 dB
- Group 4 Vertical intermodulation test: 200 Hz; +6, +9, +12 dB

STR 112 Net Each\$15.00

STR 120 Wide Range Pickup Response Test Record

The STR 120 makes possible the measurement of pickup response at frequencies far beyond the audible range, where elusive distortion elements can cause audible distortion. The low-frequency range includes glide-tones at twice normal level for the detection and elimination of arm resonance, loudspeaker cone and cabinet rattles. Other

tests include: silent grooves for measuring rumble and surface noise characteristics; and standard level bands at 0 dB for overall system S/N measurements. This record is suitable for use with a graphic level recorder to provide permanent, visible records for precise evaluation.

SIDE A

- Band 1 Left sweep, 500-50,000 Hz, constant velocity, -8 dB re 3.54 cm per sec rms
- Band 2 Right sweep, 500-50,000 Hz, Constant velocity -8 dB re 3.54 cm per sec rms
- Band 3 Lateral sweep, 500-50,000 Hz, constant velocity, -8 dB re 5 cm per sec rms
- Band 4 Vertical sweep, 500-50,000 Hz, constant velocity, -8 dB re 5 cm per sec rms
- Group 2 (Middle)—Similar to Group 1
- Group 3 (Inner)—Similar to Group 1

SIDE B

- Band 1 Quiet groove
- Band 2 1,000 Hz reference tone, left channel, 8.0 μ m peak amplitude (3.54 cm per sec rms velocity)
- Band 3 1,000 Hz reference tone, right channel, 8.0 μ m peak amplitude (3.54 cm per sec rms velocity)
- Band 4 Left sweep, 10-500 Hz, constant amplitude, + 12 dB re 8.0 μ m peak amplitude
- Band 5 Right sweep, 10-500 Hz, constant amplitude, + 12 dB re 8.0 μ m peak amplitude
- Band 6 Lateral sweep, 10-500 Hz, constant amplitude, + 12 dB re 11.2 μ m peak amplitude
- Band 7 Vertical sweep, 10-500 Hz, constant amplitude, + 12 dB re 11.2 μ m peak amplitude
- Band 8 Quiet groove

STR 120 Net Each\$15.00

STR 130 RIAA Frequency Response Test Record

The STR 130, with RIAA frequency characteristics, is designed for the calibration of professional recording equipment and for testing the response of professional and consumer record reproduction equipment. This record is suitable

for use with a graphic level recorder to provide permanent, visible records for precise evaluation. Spot frequency bands for use without automatic equipment are included.

SIDE A:

- Band 1 Left sweep, 40-20,000 Hz, -14 dB re 3.54 cm per sec rms at 1 kHz
- Band 2 Right sweep, similar to Band 1A
- Band 3 Lateral sweep, 40-20,000 Hz, -14 dB re 5 cm per sec rms at 1 kHz
- Band 4 Left spot frequencies, 20-20,000 Hz, -14 dB re 3.54 cm per sec rms at 1 kHz
- Band 5 Left channel reference tone, 1,000 Hz, 3.54 cm per sec rms

- Band 6 Right channel reference tone, 1,000 Hz, 3.54 cm per sec rms

- Band 7 Lateral reference tone, 1,000 Hz, 5 cm per sec rms

SIDE B:

- Band 1 Lateral spot frequencies, 20-20,000 Hz, -14 dB re 5 cm per sec rms at 1 kHz
- Band 2 Right spot frequencies, 20-20,000 Hz, -14 dB re 3.54 cm per sec rms at 1 kHz

STR 130 Net Each\$15.00

STR 140 RIAA Pink Noise Acoustical Test Record

The STR 140 is designed for acoustical testing of systems and loudspeakers, and for psychoacoustic tests on reproduction equipment. With the STR 140 it becomes possible to test loudspeakers in the room in which they will be used.

Spot frequency tones with voice announcements facilitate the testing procedure. Continuous glide-tones in 1/3-octave bands cover the frequency range from 30 to 15,000 Hz and are synchronized with a graphic level recorder.

SIDE A:

- Band 1 Left sweep, 30-15,000 Hz, -14 dB re 3.54 cm per sec rms at 1 kHz
- Band 2 Right sweep, similar to Band 1A
- Band 3 Lateral sweep, 30-15,000 Hz, -14 dB re 5 cm per sec rms at 1 kHz
- Band 4 Left channel spots, 30-14,000 Hz, -14 dB re 3.54 cm per sec rms at 1 kHz
- Band 5 Left channel reference tone, 1,000 Hz, 3.54 cm per sec rms
- Band 6 Right channel reference tone, 1,000 Hz, 3.54 cm per sec rms
- Band 7 Lateral reference tone, 1,000 Hz, 5 cm per sec rms

SIDE B:

- Band 1 Lateral spots, 30-14,000 Hz, -14 dB re 5 cm per sec rms at 1 kHz
- Band 2 Right spots, 30-14,000 Hz, -14 dB re 3.54 cm per sec rms at 1 kHz
- Band 3 Wide band noise, left channel, -10 dB re 3.54 cm per sec rms
- Band 4 Wide band noise, right channel, similar to Band 3B
- Band 5 Wide band noise, left and right channels in phase, -10 dB re 5 cm per sec rms
- Band 6 Wide band noise, left and right channels randomly phased, -10 dB re 3.54 cm per sec rms per channel

STR 140 Net Each\$15.00

STR 151 Broadcast Test Record

The Broadcast Test Record STR 151 was developed especially to meet the needs of broadcast engineers, audiophiles, and other professionals seeking a convenient signal source for the testing and adjustment of all audio equipment. As a means for measuring phonograph pickup

response this record is an essential tool. In providing complex waveforms for special tests, it is a device which can be used to great advantage by all AM, FM, and TV broadcasters, as well as audio service centers.

SIDE A: MONO TESTS

- Band 1 Wow and flutter measurement tone, 3,000 Hz, 0 dB
- Band 2 Lateral reference tone, 400 Hz, 0 dB level, re 5 cm per sec rms at 1 kHz
- Band 3 Peaked calibration signal, 400 Hz continuous at 0 dB, 3,000 Hz bursts at +10 dB
- Band 4 Spot frequencies, 20-20,000 Hz, -14 dB re 5 cm per sec rms at 1 kHz
- Band 5 Lateral reference tone, 1,000 Hz, 5 cm per sec rms
- Band 6 Volume indicator ballistic calibration signal, 1,000 Hz, 0 dB, 300 msec bursts
- Band 7 Lateral strobe, 120 Hz, 33 1/3 rpm
- Band 8 Vertical strobe, 120 Hz, 33 1/3 rpm

SIDE B: STEREO TESTS

- Band 1 Left reference tone, 1,000 Hz, 3.54 cm per sec rms, 0 dB
- Band 2 Right reference tone, 1,000 Hz, 3.54 cm per sec rms, 0 dB
- Band 3 Left spot frequencies, 20-20,000 Hz, -14 dB re 3.54 cm per sec rms at 1 kHz
- Band 4 Right spot frequencies, 20-20,000 Hz, -14 dB re 3.54 cm per sec rms at 1 kHz
- Band 5 Silent groove
- Band 6 Lateral strobe, 120 Hz, 45 rpm
- Band 7 Vertical strobe, 120 Hz, 45 rpm

STR 151\$15.00

STR 170 318 Microsecond Frequency Response Test Record

The STR 170 provides pickup designers and recording studios with a high-level, easily-equalized signal for frequency response and channel separation measurements. The STR 170 employs a 318 microsecond characteristic corresponding to the "test" or "flat" mode common to most disc recording equipment. Constant amplitude re-

cording is employed in the region below 500 Hz with constant velocity recording in the region above. The transition is smooth, in contrast with the STR 100 which employs a sharp breakpoint at 500 Hz. The record is suitable for use with a graphic level recorder to provide permanent, visible records for precise evaluation.

SIDE A:

- Band 1 Left sweep, 40-20,000 Hz, -1 dB re 3.54 cm per sec rms at 1 kHz
- Band 2 Right sweep similar to Band 1A
- Band 3 Lateral sweep, 40-20,000 Hz, -1 dB re 5 cm per sec rms at 1 kHz
- Band 4 Left spot frequencies, 20-20,000 Hz, -1 dB re 3.54 cm per sec rms at 1 kHz
- Band 5 Left channel reference tone, 1,000 Hz, 3.54 cm per sec rms

- Band 6 Right channel reference tone, 1,000 Hz, 3.54 cm per sec rms
- Band 7 Lateral reference tone, 1,000 Hz, 5 cm per sec rms

SIDE B:

- Band 1 Lateral spot frequencies, 20-20,000 Hz, -1 dB re 5 cm per sec rms at 1 kHz
- Band 2 Right spot frequencies, 20-20,000 Hz, -1 dB re 3.54 cm per sec rms at 1 kHz

STR 170\$15.00

STR 101 Seven Steps to Better Listening

Through easy to make tests and simple narrative, this test record for home use will help you to blend electronic components, room acoustics and the characteristics of your own ears into one well-tuned system for the enjoyment of all recorded sound. You will be able to assure yourself that your equipment functions properly, and also learn to

"tune" your record player to your own hearing and to the acoustics of the room in which you are listening.

A Booklet of detailed operational procedures by the noted author, Edward Tatnall Canby, is also included.

SIDE A: STEREO TESTS

- Band 1 Left-Right identification
- Band 2 Phasing Test.
- Band 3 Loudspeaker Balance.
- Band 4 Tone Control Setting (one-third octave noise bands).
- Band 5 Alternate Phasing Test.

SIDE B: STEREO-MONAUROAL TESTS

- Band 1 Tone Control Setting (one-third octave noise tone).
- Band 2 Buzz and Rattle Elimination (high level glide tone).
- Band 3 Lateral Tracking Test.
- Band 4 Vertical Tracking Test.

STR 101 Net Each\$6.98

SQT 1100 Quadraphonic Test Record

The SQT-1100 is designed for calibration, verification, and adjustment of SQ[®] decoding equipment. The record provides test bands for pickup measurements, for adjustment

of decoder electronics and for channel identification and balance. Each band is described in terms of recorded characteristics and its intended use.

SIDE A:

- Band 1 Lateral 1 kHz, 0 dB reference tone, 5 cm/sec rms
- Band 2 Left Front sweep frequency; 40-20,000 Hz, RIAA equalization, -15 dB re 3.54 cm/sec rms at 1 kHz
- Band 3 Right Front sweep frequency; 40-20,000 Hz, RIAA equalization, -15 dB re 3.54 cm/sec at 1 kHz
- Band 4 Right Back sweep frequency; 40-20,000 Hz RIAA equalization, -15 dB re 3.54 cm/sec at 1 kHz
- Band 5 Left Back sweep frequency; 40-20,000 Hz, RIAA equalization, -15 dB re 3.54 cm/sec at 1 kHz
- Band 6 Pickup phase measurement: Lateral spot frequencies 63, 125, 250, 500 Hz, 1, 2, 2.5, 3.15, 4, 5, 6.3, 8, 10, 12.5, 16, 20kHz low frequency constant amplitude to high frequency constant velocity, 3 dB knee at 500 Hz, -1 dB at 1 kHz
- Band 7 Channel identification Signals
 - a) Center Front —CF
 - b) Right Front —RF
 - c) Center Right —CR
 - d) Right Band —RB
 - e) Center Back —CB
 - f) Left Back —LB
 - g) Center Left —CL
 - h) Left Front —LF
 - i) Center Front—CF
- Band 8 Left 1 kHz, 0 dB reference tone, 3.54 cm/sec rms
- Band 9 Right 1 kHz, 0 dB reference tone, 3.54 cm/sec rms

SIDE B:

- Band 1 Lateral 1 kHz, 0 dB reference tone, 5 cm/sec rms
- Band 2 AGC adjustment: Lateral 1 kHz, -27 dB to + 12 dB, 3 dB steps
- Band 3 Single Channel Logic Circuit Dynamics: 1 kHz, 0 dB level, 1 second ON, 1 second OFF, LF, CF, RF, RB, CB, LB
- Band 4 Alternating Channel Logic Circuit Dynamics, switching between channels 1 kHz, 0 dB level, 1 sec per channel, LF to RF, RF to RB, RB to LB, LB to LF, CF to CB, LF to RB, RF to LB, LF to CF, LF to CB, RF to CF, RF to CB
- Band 5 1 kHz, 0 dB Channel Level
 - a) Left Front Left 3.54 cm/sec rms
 - b) Right Front Right 3.54 cm/sec
 - c) Left Back Clockwise Helical Modulation 3.54 cm/sec—Left + 90° rel Right, each 2.5 cm/sec rms
 - d) Right Back Counterclockwise Helical Modulation, 3.54 cm/sec —Right +90° rel Left, each 2.5 cm/sec rms
 - e) Center Front Lateral 3.54 cm/sec rms
 - f) Center Back Vertical 3.54 cm/sec rms

SQT 1100 Net Each\$15.00

Quantity discount prices available on request.

SQ is a trademark of CBS Inc.

To order, please write to:

COLUMBIA SPECIAL PRODUCTS

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New York, N.Y. 10019